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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/728,215	12/04/2003	Yi-Lung Cheng	N1085-90166	7974

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EXAMINER

SCHILLINGER, LAURA M

ART UNIT	PAPER NUMBER
2813	

DATE MAILED: 10/31/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

10/728,215

Applicant(s)

CHENG ET AL.

Examiner

Laura M. Schillinger

Art Unit

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 14 July 2006.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 35-42 is/are pending in the application.
- 4a) Of the above claim(s) 42 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 35-42 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

## Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

## Attachment(s)

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                       | 5) <input type="checkbox"/> Notice of Informal Patent Application                       |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

## **DETAILED ACTION**

### ***Election/Restrictions***

Newly submitted claim 42 is directed to an invention that is independent or distinct from the invention originally claimed for the following reasons: claim 42 does not require the flow ratio required by claim 35 and instead requires a specific thickness- this constitutes a mutually exclusive characteristic from that of claim 35 and therefore requires a separate and distinct search.

Since applicant has received an action on the merits for the originally presented invention, this invention has been constructively elected by original presentation for prosecution on the merits. Accordingly, claim 42 is withdrawn from consideration as being directed to a non-elected invention. See 37 CFR 1.142(b) and MPEP § 821.03.

### ***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

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Claims 35-41 are rejected under 35 U.S.C. 102(e) as being clearly anticipated by Bencher ('397).

Bencher teaches the following claimed limitations as cited below:

35. A method of depositing a carbon doped SiO<sub>2</sub> film on a substrate, comprising:  
flowing oxygen, an inert gas, and one of dimethylsilane (2MS), trimethylsilane (3MS), and tetramethylsilane (4MS) at a flow rate ratio of O<sub>2</sub>:Ar:2MS/3MS/4MS is about 1 : 1.5 :6 (Col.5, lines: 45-55);  
generating a plasma to deposit a carbon doped SiO<sub>2</sub> film at certain reaction conditions (Col.5, lines: 45-50); and  
continuing said deposition until an acceptable film thickness of said carbon doped SiO<sub>2</sub> film is reached (Col.9, lines: 55-65).

36. The method of claim 35, wherein the one of dimethylsilane, trimethylsilane and tetramethylsilane comprises tetra (Col.5, lines: 45-55).

37. The method of claim 36, wherein the O<sub>2</sub> flow rate is from about 50 to 300 sccm, the 3MS flow rate is between about 400 and 800 sccm, and the Ar flow rate is between about 50 and 300 sccm (Col.5, lines: 45-60).

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38. The method of claim 35, wherein said certain reaction conditions in step (c) are a temperature between about 300 and 400 °C an RF power from about 600 to 800 1 Watts, and a pressure between about 1 .5 and 4 Torr (Col.5-6, lines: 54-5).

39. The method of claim 35, wherein the acceptable thickness is from about 4000 to 8000 Angstroms (Col.9, lines: 60-65).

40. The method of claim 35, wherein generating and flowing steps are performed in a CVD process chamber (Col.1, lines: 20-25).

41. The method of claim 35, wherein the deposition rate of said carbon doped SiO<sub>2</sub> film is from about 5000 to 8000 Angstroms per minute (Col.8, lines: 10-20).

### ***Response to Arguments***

Applicant's arguments filed 7/14/06 have been fully considered but they are not persuasive. Applicant argues that Bencher fails to teach Applicant's specific flow ratio, however the ratio can be calculated from the flow rate ranges provided by Bencher- the flow ratio is met if )=40; A=60; and TMS=240; all of these values are found taught within the flow rate range of Bencher- therefore Applicant's argument is not persuasive.

### ***Conclusion***

**THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Laura M. Schillinger whose telephone number is (571) 272-1697. The examiner can normally be reached on M-T, R-F 7:00-5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Carl W. Whitehead, Jr. can be reached on (571) 272-1702. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

A handwritten signature in black ink, appearing to read 'Laura M Schillinger', with a large, stylized loop at the end.

Laura M Schillinger  
Primary Examiner  
Art Unit 2813

10/16/06